

Amendments to the Specification

Please replace the paragraph beginning at page 10, line 23, with the following redlined paragraph.

Also contemplated by the present invention are modified forms of DSP-3 and/or DSP-3 alternate form in which a specific function is disabled. For example, such proteins may be constitutively active or inactive, or may display altered binding or catalytic properties. Such altered proteins may be generated using well known techniques, and the altered function confirmed using screens such as those provided herein. Certain modified DSP-3 or DSP-3 alternate form polypeptides are known as "substrate trapping mutants." Such polypeptides retain the ability to bind a substrate (*i.e.*, K_m is not substantially diminished), but display a reduced ability to dephosphorylate a substrate (*i.e.*, k_{cat} is reduced, preferably to less than 1 per minute). Further, the stability of the substrate trapping mutant/substrate complex should not be substantially diminished, relative to the stability of a DSP-3/substrate complex, including a ~~DSP-3~~DSP-3 alternate form/substrate complex. Complex stability may be assessed based on the association constant (K_a). Determination of K_m , k_{cat} and K_a may be readily accomplished using standard techniques known in the art (*see, e.g.*, WO 98/04712; Lehninger, Biochemistry, 1975 Worth Publishers, NY) and assays provided herein. Substrate trapping mutants may be generated, for example, by modifying DSP-3 with an amino acid substitution at position 57 or position 88 (*e.g.*, by replacing the amino acid aspartate at position 57 with an alanine residue, or by replacing the cysteine at residue 88 with a serine). Substrate trapping mutants may be used, for example, to identify DSP-3 substrates. Briefly, the modified DSP-3 or DSP-3 alternate form may be contacted with a candidate substrate (alone or within a mixture of proteins, such as a cell extract) to permit the formation of a substrate/DSP-3 complex. The complex may then be isolated by conventional techniques to permit the isolation and characterization of substrate. The preparation and use of substrate trapping mutants is described, for example, within PCT Publication No. WO 98/04712.